U.S. Department of Transportation

Intelligent Transportation Systems Standards Fact Sheet

NTCIP 8003
National Transportation Communications for ITS Protocol (NTCIP) – Profile Framework

April 2002

Overview

The National Transportation Communications for Intelligent Transportation System (ITS) Protocol (NTCIP) is a family of standards that provides both the rules for communicating (called protocols) and the vocabulary (called objects) necessary to allow electronic traffic control equipment from different manufacturers to operate with each other as a system. The NTCIP is the first set of standards for the transportation industry that allows traffic control systems to be built using a "mix and match" approach with equipment from different manufacturers. Therefore, NTCIP standards reduce the need for reliance on specific equipment vendors and customized one-of-a-kind software. To assure both manufacturer and user community support, NTCIP is a joint product of the National Electronics Manufacturers Association (NEMA), the American Association of State Highway and Transportation Officials (AASHTO), and the Institute of Transportation Engineers (ITE).

The NTCIP family of standards is a joint project of the following standards development organizations:

American Association of State Highway and Transportation Officials (AASHTO)

Institute of Transportation Engineers (ITE)

National Electrical Manufacturers Association (NEMA)

(Contact information is shown at the end of this fact sheet)

To obtain a copy of this standard, please contact:

Global Engineering Documents
Web site: http://global.ihs.com

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Prior to the establishment of the NTCIP, traffic management centers used a number of proprietary protocols to exchange information with field devices such as traffic signal controllers and dynamic message signs. The goal of all NTCIP standards is to identify a common set of non-proprietary communications protocols that address requirements for center-to-center and center-to-field communications and promote interoperability.

What is this standard for?

This standard, **NTCIP 8003 – Profile Framework**, provides the principles and classification schemes for NTCIP profiles. It also specifies aspects of the formatting and the technical content of NTCIP profiles. In effect, it represents information management policy of the NTCIP Joint Committee. Its ultimate goal is to provide a basis for the development of uniform, nationally recognized communication profiles and conformance and compliance requirements for the profiles.

Profiles prescribe subsets or combinations of base standards and protocols for specific communications functions or services. Profiles also prescribe specific options in base standards for particular communications functions and services. This document is based on the International Organization for Standardization (ISO) concept of a profile.

Who uses it?

This standard is used by anyone interested in understanding how to categorize various NTCIP standards and protocols and how to combine them into building blocks. These building blocks are useful to managerial and engineering personnel for defining specific communications and network requirements without having to restate the details of existing standards. It is useful to any organization or individual involved in the development of communications, or profile, standards and is directly applicable to those individuals and working groups developing NTCIP standards.

How is it used?

This standard is used for general background information on how communications and network standards and protocols are classified, used, and combined. It defines a methodology that focuses on specific requirements of the base communications standards rather than the technical details or requirements of a protocol specification. The objective is to facilitate the specification of ITS systems characterized by a high degree of interoperability and interchangeability of components.

Scope

This document develops the terminology, background, basic concepts, content, structure, construction guidelines, organization, and conformance requirements that apply to NTCIP profile standards. Combining standards into standardized profiles provides a number of benefits, including the fact that profiles can be used to specify major functional elements of a system that meets an end-user's specific needs.

Related documents

To accommodate the broad scope of this standardization effort, the NTCIP standard has been divided into numerous individual standards. A detailed list of related documents is available on the **NTCIP 9001 – NTCIP Guide** fact sheet. (The NTCIP Guide is available on-line at www.ntcip.org).

ISO/IEC 7498-1:1994 – Information Technology - Open Systems Interconnection, Basic Reference Model

ISO/IEC TR 10000-1:1995 – Information Technology - Framework and Taxonomy of International Standardized Profiles, Part 1: General Principles and Documentation Framework

ISO/IEC TR 10000-2:1995 – Information Technology - Framework and Taxonomy of International Standardized Profiles, Part 2: Principles and Taxonomy for OSI Profiles

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